

What is claimed is:

1. An optical pickup head of an optical recording reproducing apparatus, comprising:

5 a slider installed so as to be slidable along the surface of an optical disk and having a convergence lens at a side for focusing light; and

a micro-actuating means installed so as to be laminated with the slider in order to adjust an optic axis of the convergence lens minutely.

10 2. The optical pickup head of claim 1, further comprising:

a lower fixed body installed at the top of the slider, having plural lower fixed electrodes on the inner circumference at regular intervals;

15 an upper fixed body installed at the top of the lower fixed body so as to be corresponded to a shape of the lower fixed body and have plural upper fixed electrodes on the inner circumference at regular intervals;

an insulating layer interposed between the lower fixed body and the upper fixed body;

20 a moving body installed so as to be corresponded to the lower and upper fixed bodies, moving in the optical axis direction and having a moving electrode at the outer circumference arranged alternately between the lower and upper fixed electrodes; and

plural electrode pads for supplying power to the lower fixed body, the upper fixed body and the moving body in order to driving the moving body.

25 3. The optical pickup head of claim 1, wherein the lower fixed

electrode, the upper fixed electrode and the moving electrode are arranged as a comb-pattern.

4. The optical pickup head of claim 1, wherein the slider is made of a
5 transparent material.

5. The optical pickup head of claim 4, wherein an air bearing surface
is formed on the bottom surface of the slider corresponded to the optical disk.

10 6. The optical pickup head of claim 1, wherein a magnetic coil is
formed at the slider in order to magnetize the optical disk.

7. The optical pickup head of claim 6, wherein the magnetic coil is
inserted into an insertion groove formed at the bottom surface of the slider.

15 8. The optical pickup head of claim 7, wherein filler having at least
one of SiO_2 and Si_3N_4 is charged around the circumference of the magnetic coil of
the slider.

20 9. The optical pickup head of claim 1, further comprising:
an elastic-supporting portion in which one side is connected to the upper
fixed body and another side is connected to the moving body in order to support
the moving body elastically.

25 10. A method for fabricating an optical pickup head of an optical

recording reproducing apparatus, comprising steps of:

preparing a mother material on which an insulating layer is arranged and a silicon layer is laminated on both sides of the insulating layer;

5 forming a lower body having a lower fixed electrode at a side of the mother body by using a certain semiconductor device fabricating processes, forming an upper body having an upper fixed electrode at the other side and forming a moving body installed between the upper and lower fixed electrodes so as to be movable and have a moving electrode alternately arranged between the upper and lower fixed electrodes;

10 joining the material obtained by the preparing step to a slider; and combining a convergence lens with the body.

11. A lubricant-coated optical pickup head of an optical recording reproducing apparatus, comprising:

15 a slider installed so as to be slidable along the surface of an optical disk, having a convergence lens at a side for focusing light and having a lubricant-coated air bearing surface at the bottom; and

a micro-actuating means installed so as to be laminated with the slider in order to adjust an optic axis of the convergence lens minutely.

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12. The lubricant-coated optical pickup head of claim 11, wherein the micro-actuating means includes:

25 a lower fixed body installed at the top of the slider so as to have plural lubricant-coated lower fixed electrodes on the inner circumference at regular intervals;

an upper fixed body installed at the top of the lower fixed body so as to be corresponded to a shape of the lower fixed body and having plural lubricant-coated upper fixed electrodes on the inner circumference at regular intervals;

an insulating layer interposed between the lower fixed body and the upper fixed body;

a moving body installed so as to be corresponded to the lower and upper fixed body, moving in the optical axis direction and having a moving electrode at the outer circumference so as to be arranged alternately between the lower and upper fixed electrodes; and

10 plural electrode pads for supplying power to the lower fixed body, the upper fixed body and the moving body in order to driving the moving body.

13. The lubricant-coated optical pickup head of claim 11, wherein the lower fixed electrode, the upper fixed electrode and the moving electrode are 15 arranged as a comb-pattern.

14. The lubricant-coated optical pickup head of claim 11, wherein the slider is made of a transparent material.

20 15. The lubricant-coated optical pickup head of claim 11, further comprising:

an elastic-supporting portion in which a side is connected to the upper fixed body and the other side is connected to the moving body in order to support the moving body elastically.

16. The lubricant-coated optical pickup head of claim 11, wherein the lubricant is DDMS (dichlorodimethylsilane).

17. The lubricant-coated optical pickup head of claim 11, wherein the 5 lubricant is obtained by diluting dichlorodimethylsilane in a toluene solution.

18. The lubricant-coated optical pickup head of claim 11, wherein the lubricant is obtained by diluting isooctane dichlorodimethylsilane in a toluene solution.

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19. A method for coating lubricant on an optical pickup head, comprising steps of:

coating lubricant onto upper and lower fixed electrodes, a moving electrode and an air bearing surface of a slider by dipping an optical pickup head 15 into the lubricant; and

eliminating the rest lubricant not coated on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by dipping the optical pickup head in a toluene solvent.

20. A method for coating lubricant on an optical pickup head, comprising steps of:

coating lubricant onto upper and lower fixed electrodes, a moving electrode and an air bearing surface of a slider by installing an optical pickup head in a flow channel in which the lubricant flows; and

25 eliminating the rest lubricant not coated onto the upper and lower fixed

electrodes, the moving electrode and the air bearing surface of the slider by making a toluene solvent flow in the flow channel.

21. A method for coating lubricant on an optical pickup head,
5 comprising steps of:

forming a silicon dioxide film onto upper and lower fixed electrodes, a moving electrode and an air bearing surface of a slider by dipping an optical pickup head into hydrogen peroxide;

10 eliminating the rest hydrogen peroxide on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by dipping the optical pickup head in a toluene solvent;

coating lubricant on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by dipping the optical pickup head in the lubricant; and

15 eliminating the rest lubricant on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by dipping the optical pickup head in a solvent.

22. A method for coating lubricant on an optical pickup head,
20 comprising steps of:

forming a hydrogen peroxide film onto upper and lower fixed electrodes, a moving electrode and an air bearing surface of a slider by installing an optical pickup head in a flow channel in which hydrogen peroxide flows;

25 eliminating the rest hydrogen peroxide on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by

making a toluene solvent flow in the flow channel;

coating lubricant on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by making the lubricant flow in the flow channel; and

5 eliminating the rest lubricant on the upper and lower fixed electrodes, the moving electrode and the air bearing surface of the slider by making a toluene solvent flow in the flow channel.